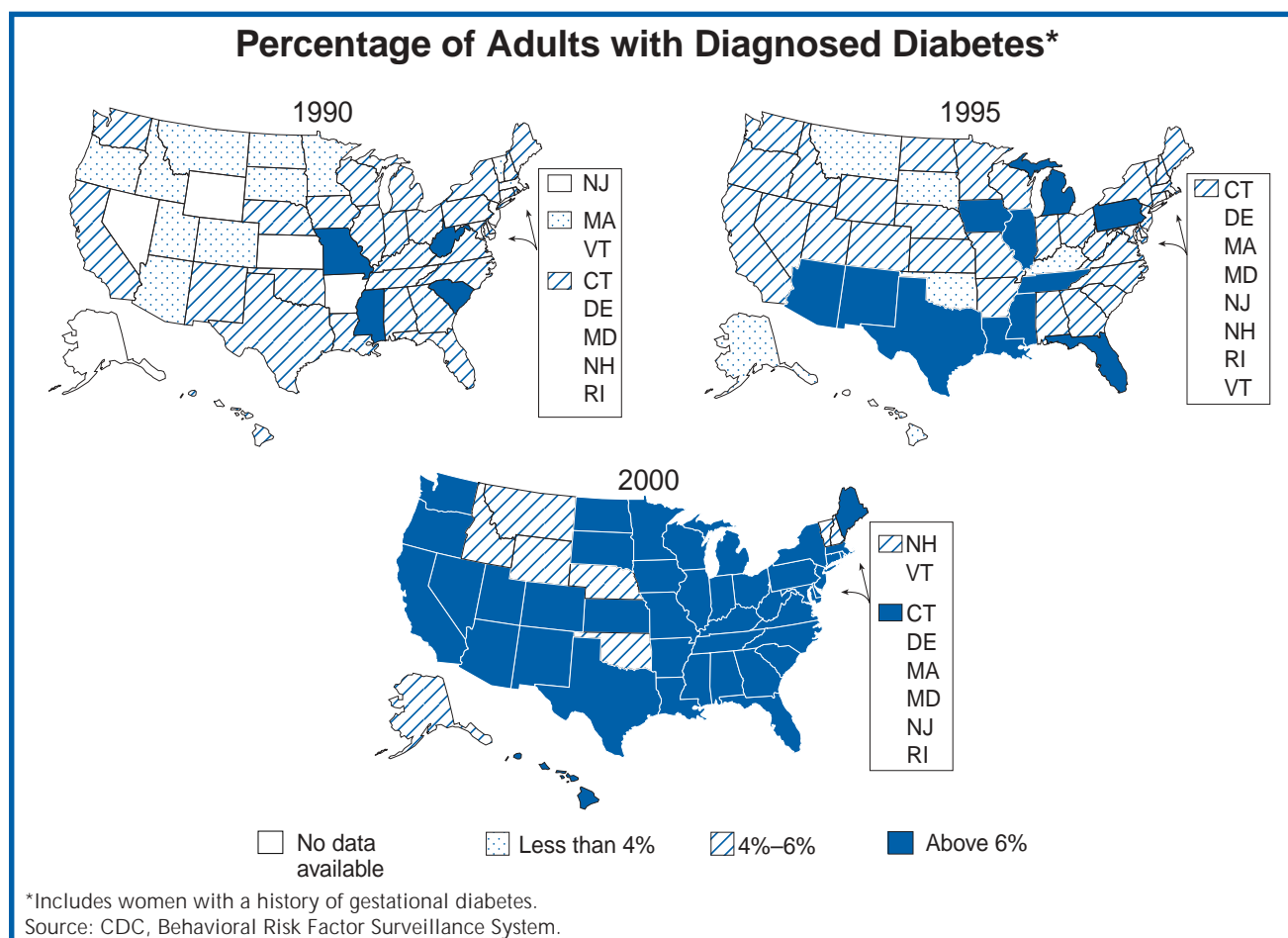


Diabetes:

Disabling, Deadly, and on the Rise

2002



“Dramatic new evidence signals the unfolding of a diabetes epidemic in the United States. With obesity on the rise, we can expect the sharp increase in diabetes rates to continue. Unless these dangerous trends are halted, the impact on our nation’s health and medical care costs will be overwhelming.”

*Jeffrey P. Koplan, MD, MPH
Director, Centers for Disease Control and Prevention, 1998–2002*

Diabetes Is a Growing Public Health Problem

Diabetes is a serious, costly disease that is on the rise. Seventeen million Americans have diabetes, and over 200,000 people die each year of related complications. Diabetes can cause heart disease, stroke, blindness, kidney failure, leg and foot amputations, pregnancy complications, and deaths related to flu and pneumonia. Particularly at risk are the 5.9 million Americans who are unaware that they have the disease.

Among U.S. adults, diagnosed diabetes increased 49% from 1990 to 2000. Similar increases are expected in the next decade and beyond.

People with diabetes have a shortage of insulin or a decreased ability to use insulin, a hormone that allows glucose (sugar) to enter cells and be converted to energy. In uncontrolled diabetes, glucose and fats remain in the blood and, over time, damage vital organs.

There are two main types of diabetes. Type 1 most often appears during childhood or adolescence. Type 2 affects 90%–95% of people with diabetes and most often appears after age 40. However, it is no longer considered an adult-only disease. It is now being found at younger ages and is even being diagnosed among children and teens. Type 2 diabetes is linked to obesity and physical inactivity—both of which can be modified to improve health.

Some women develop diabetes during pregnancy. Known as gestational diabetes, this condition affects 2%–5% of all pregnancies. Other, less common forms of diabetes result from genetic syndromes, surgery, drugs, malnutrition, infections, and other illnesses.

Now the sixth leading cause of death in America, diabetes has its greatest effects on the elderly and certain racial and ethnic groups. One in five adults over age 65 has diabetes. Among adults aged 20 or older, African Americans are twice as likely as whites to have diabetes, and American Indians and Alaska Natives are 2.6 times more likely to have diabetes.

The direct and indirect costs of diabetes are nearly \$100 billion a year. The average health care cost for a person with diabetes in 1997 was \$10,071, compared with \$2,699 for a person without diabetes. However, the full burden of diabetes is hard to measure: death records often fail to reflect the role of diabetes, and the costs related to undiagnosed diabetes are unknown.

Better nutrition, physical activity, control of blood glucose levels, and access to services can delay the progression of diabetes. In fact, recent findings show that modest, consistent physical activity and a healthy diet can cut a person's risk for developing type 2 diabetes by nearly 60%.

Many Complications of Diabetes Can Be Prevented

Eye disease and blindness. Each year, 12,000–24,000 people become blind because of diabetic eye disease. Screening and care could prevent up to 90% of diabetes-related blindness. However, only 60% of people with diabetes receive annual dilated eye exams.

Kidney disease. About 38,000 people with diabetes develop kidney failure each year, and over 100,000 are treated for this condition. Treatment to better control blood pressure and blood glucose levels could reduce diabetes-related kidney failure by about 50%.

Amputations. About 82,000 people have diabetes-related leg and foot amputations each year. Foot care programs that include regular examinations and patient education could prevent up to 85% of these amputations.

Cardiovascular disease. Heart disease and stroke cause about 65% of deaths among people with

diabetes. These deaths could be reduced by 30% with improved care to control blood pressure and blood glucose and lipid levels.

Pregnancy complications. About 18,000 women with preexisting diabetes deliver babies each year, and an estimated 135,000 expectant mothers are diagnosed with gestational diabetes. These women and their babies have an increased risk for serious complications. Screenings and diabetes care before and during pregnancy can reduce the risk for complications such as stillbirths, congenital malformations, and the need for cesarean sections.

Flu- and pneumonia-related deaths. Each year, 10,000–30,000 people with diabetes die of complications from flu or pneumonia. They are roughly three times more likely to die of these complications than people without diabetes. However, only 55% of people with diabetes get an annual flu shot.

CDC Provides National Leadership and Builds Partnerships

CDC provides leadership and funding to diabetes control programs nationwide. CDC also works with many partners to provide data for sound public health decisions, inform the public about diabetes, and ensure good care and education for Americans with diabetes.

Establish Effective State Programs

With fiscal year 2002 funding of \$61.8 million, CDC provides limited support to 34 states, 8 territories, and the District of Columbia for core diabetes control programs and more substantial support to 16 states for comprehensive programs. For example,

- The **Minnesota** Diabetes Control Program has teamed up with a large local health plan to improve diabetes care at primary care clinics. Patients' blood glucose levels, cholesterol levels, and quality of care have improved significantly since the 1994 launch of Project IDEAL (Improving Diabetes through Empowerment, Active collaboration, and Leadership). As a result, participants' risk for diabetes-related heart problems has declined 40%, and their risk for eye and kidney disease has declined 25%. Patients are also far more likely to have annual exams known to prevent blindness, kidney failure, and amputation.
- The **California** Diabetes Control Program assessed the effects of case management on blood glucose levels among Medicaid patients. Blood glucose levels had declined significantly at 18 months among patients who received diabetes care guidelines, blood glucose monitoring instruction,

and nutrition education in addition to usual care. Improved glucose control decreased their risk for complications and cut health care costs.

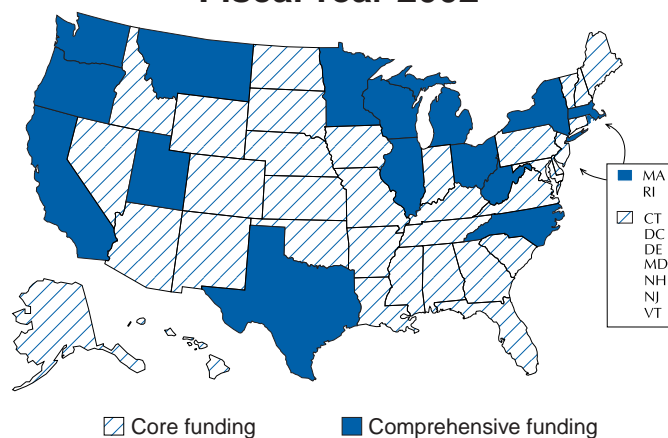
- The **New York** Diabetes Control Program works with many partners to improve diabetes care. In 2 years, provider- and community-focused interventions have reduced rates of diabetes hospitalization by 35% and rates of foot and leg amputation by 39%.

Monitor the Burden and Translate Science

Timely data and public health research are essential to understanding how diabetes affects different populations and improving quality of care. CDC analyzes information from several national data sources, including the Behavioral Risk Factor Surveillance System, and explores ways to collect better diabetes data on groups most at risk. To translate scientific data into higher quality care, CDC works with many research partners. For example, CDC has given \$3.5 million to the National Diabetes Laboratory to support studies to improve the lives of people with diabetes. CDC also works with managed care organizations and community health centers to

- Assess how accepted standards of diabetes care are applied by health care providers and in clinical care settings.
- Explore variations in the quality of diabetes care provided.
- Develop and test strategies to move existing care practices closer to optimal standards.

Funding for CDC's National Diabetes Program, Fiscal Year 2002*



*CDC also funds the following territories for core diabetes control programs: American Samoa, Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Palau, Puerto Rico, and U.S. Virgin Islands.

Educate and Share Expertise

Educating others about diabetes is a priority at CDC. The National Diabetes Education Program (NDEP) has a network of more than 200 public and private partners that educate others in order to improve treatment, promote early detection, and prevent the onset of diabetes. The NDEP is sponsored by CDC and the National Institutes of Health. Many NDEP products are available on the Internet (www.ndep.nih.gov), including the award-winning campaign, *Control Your Diabetes. For Life*.

CDC also develops new resources for health professionals, people with diabetes, and communities. For example, *Diabetes Today* is a train-the-trainer program that allows health professionals and community leaders to develop a community plan for preventing the complications of diabetes. A Spanish version of *Diabetes Today* is available, and a regional training site serves Hawaii and the Pacific Basin.

Target Populations at Risk

- **Primary prevention for people most at risk.** Recent studies have confirmed that a healthy diet and modest physical activity can help people cut their risk for ever developing type 2 diabetes. Thus, CDC is developing methods to identify people at high risk for diabetes, policies to help these people reduce their risk, and public health programs that will slow the diabetes epidemic.
- **National Diabetes Prevention Center.** Because diabetes is so common among American Indians, CDC funds a center in Gallup, New Mexico. The center is working with American Indian and Alaska Native communities to develop culturally relevant and scientifically sound interventions to prevent complications from diabetes.
- **National minority organizations.** Through the NDEP, CDC collaborates with six national minority organizations to develop and deliver culturally and linguistically appropriate diabetes prevention and control messages to African American, Hispanic/Latino, American Indian, and Asian American/Pacific Islander populations.
- **U.S./Mexico Border Diabetes Prevention and Control Project.** CDC is working with the four southwestern U.S. border states, the six border states in Mexico, the Pan American Health Organization, and Mexico's Secretariat of Health to assess the burden of diabetes, patterns of care, and barriers to good diabetes self-management.
- **Diabetes and Women's Health Initiative.** *Diabetes and Women's Health Across the Life Stages: A Public Health Perspective* examines the challenges and risks facing women with diabetes and lays the groundwork for the National Public Health Action Plan for Diabetes and Women. This plan will outline approaches for responding to the challenges facing women with diabetes. CDC, the American Diabetes Association, the American Public Health Association, and the Association of State and Territorial Health Officials are working with many partners to develop the plan.
- **SEARCH for Diabetes in Youth.** CDC is collaborating with the National Institutes of Health to study childhood diabetes, which is increasing in this country. SEARCH is a 5-year, multicenter study to find out the numbers and the types of diabetes cases among children who are 19 or younger at diagnosis. The target population includes approximately 4.5 million children, or about 6% of all American children.
- **Appalachian Diabetes Control and Translation Project.** CDC and the Appalachian Regional Commission are working with 13 states to reduce health disparities and improve quality of life for Appalachians with high rates of diabetes.
- **Project DIRECT.** Preventing amputations, blindness, and other complications for African Americans is the goal of the Diabetes Intervention Reaching and Educating Communities Together project in Raleigh, North Carolina. In its first year, the project boosted the percentage of patients receiving foot care counseling from 20% to 50%. Patients are now taking better care of themselves and are more likely to be referred for needed eye and vascular exams.

For more information or additional copies of this document, please contact the
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